Amendments to the Claims

Please amend the claims as follows:

Claim 1 (original): A dispersion compensation module for an optical communication system having an operating bandwidth around a 1.55μm nominal signal wavelength, comprising:

an input port;

an output port; and

at least one predetermined length of dispersion compensating fiber connected to the input port and the output port, the dispersion compensating fiber being designed to have a dispersion slope inflection point at a wavelength near the 1.55μm nominal signal wavelength of the optical communication system.

Claim 2 (original): A dispersion compensation module according to claim 1 wherein the dispersion slope inflection point is within the operating bandwidth.

Claim 3 (original): A dispersion compensation module according to claim 2, wherein the predetermined length of dispersion compensating fiber comprises a plurality of separate lengths of dispersion compensating fiber spliced together.

Claim 4 (original): A dispersion compensating fiber for use in an optical communication system, wherein the dispersion compensating fiber is designed to have a relative dispersion slope curve that substantially matches a relative dispersion slope curve of a transmission fiber over a wavelength bandwidth around a 1.55μm transmission wavelength.

Claim 5 (original): A dispersion compensating fiber according to claim 4 wherein the wavelength bandwidth is more than 40 nm.

Claim 6 (original): A dispersion compensating fiber according to claim 4, wherein the dispersion compensating fiber comprises a first dispersion compensating fiber and a second

dispersion compensating fiber, each of the first and second dispersion compensating fibers having a relative dispersion slope curvature so that a combined dispersion slope curve of the first and second dispersion compensating fibers substantially matches the relative dispersion slope curve of a transmission fiber.

Claim 7 (original): A dispersion compensating fiber for controlling residual dispersion in a 1.55μm wavelength transmission fiber, wherein the dispersion compensating fiber has a core region designed to provide a dispersion slope having an inflection point at a wavelength near the 1.55μm transmission wavelength.

Claim 8 (original): A dispersion compensating fiber according to claim 7 , wherein the inflection point is in a specified bandwidth about the 1.55μm transmission wavelength.

Claim 9 (original): A dispersion compensating fiber for a transmission fiber operating in a bandwidth around a 1.55μm transmission wavelength, the dispersion compensating fiber comprising a core region comprised of two or more segments, each segment having a radii and a relative refractive index percent, Δ%;

wherein the radii and Δ% for each segment are chosen to provide the dispersion compensating fiber with a dispersion slope having an inflection point at a wavelength near the 1.55μm transmission wavelength.

Claim 10 (original): A dispersion compensating fiber for controlling residual dispersion in a 1.55μm wavelength transmission fiber, wherein the dispersion compensating fiber has a core region designed to provide a relative dispersion slope that substantially matches a relative dispersion slope of the transmission fiber over at least a 40nm wavelength bandwidth near the 1.55μm transmission wavelength.

Claim 11 (original): A dispersion compensating fiber according to claim 10, wherein the relative dispersion slope in the dispersion compensating fiber intersects with the relative dispersion slope of the transmission fiber at two points near the 1.55μm transmission wavelength.

Claim 12 (original): A dispersion compensating fiber to compensate for dispersion in a transmission fiber operating near a 1.55μm transmitting wavelength, the dispersion compensating fiber comprising a core region comprised of two or more segments, each segment having a radii and a relative refractive index percent, Δ%;

wherein the radii and Δ% for each segment are chosen to provide the dispersion compensating fiber with a relative dispersion slope that substantially matches a relative dispersion slope of the transmission fiber near the 1.55μm transmitting wavelength.

Claim 13 (new): A method for compensating for dispersion in an optical transmission line, comprising:

(a) mapping a relative dispersion slope for the optical communication line;

(b) specifying a transmission wavelength for the optical communication line;

(c) specifying an operating bandwidth around the transmission wavelength;

(d) designing a dispersion compensating module having a relative dispersion slope that matches the relative dispersion slope of the transmission fiber over the specified bandwidth and that has an inflection point within the specified bandwidth.

Claim 14 (new): The method of claim 13, wherein the specified transmission wavelength is 1.55 μm.

Claim 15 (new): The method of claim 14, wherein the operating bandwidth is at least 40 nm around the operating frequency.

Claim 16 (new): The method of claim 13, wherein in step (d), the dispersion compensating module comprises a plurality of separate lengths of dispersion compensating fiber spliced together.

Claim 17 (new): The method of claim 13, wherein in step (d), the dispersion compensating module comprises a dispersion compensating fiber having a core region including at least two segments, each segment having a radius and a relative refractive index percentage $\Delta\%$ chosen such that the dispersion compensating fiber has a relative dispersion slope that matches the relative dispersion slope of the transmission fiber over the specified bandwidth and that has an inflection point within the specified bandwidth.

Claim 18 (new): The method of claim 13, wherein the dispersion compensating module has a relative dispersion slope that intersects the transmission line relative dispersion slope at two points around the operating wavelength.